WHAT IS CLAIMED IS:

1. A foam comprising a propylene copolymer material comprising at least 50 weight percent of units derived from propylene, based on the total propylene copolymer material, and units derived from ethylenically unsaturated comonomers and having a melt flow rate in the range of from 0.5 to 8 g/10 min, a melt strength of at least 5 cN, and a melt drawability of at least 20 mm/s.

2. A foam according to claim 1 wherein the propylene copolymer material has a melt flow rate in the range of from 0.6 to 5 g/10 min, a melt strength of at least 7 cN, and a melt drawability of at least 30 mm/s.

3. A foam according to claim 2 wherein the propylene copolymer material has a melt flow rate in the range of from 0.6 to 3.5 g/10 min, a melt strength of at least 10 cN, and a melt drawability of at least 40 mm/s.

4. A foam according to claim 1 wherein the ethylenically unsaturated comonomer of the propylene copolymer material is selected from the group consisting of ethylene, C_4-C_{10} 1-olefins, and C_4-C_{10} dienes.

5. A foam according to claim 1 wherein the propylene copolymer material comprises a propylene homopolymer or a random or block propylene copolymer as a continuous phase and an elastomeric phase uniformly dispersed therein.

6. A foam according to claim 1 where the propylene copolymer material comprises a propylene random copolymer.

7. A foam according to claim 5 wherein the propylene copolymer material is a rheology modified propylene copolymer material.

8. A foam according to claim 6 wherein the propylene random copolymer is a rheology modified propylene random copolymer.

9. A foam according to claim 1 having a density of less than 250 kg/m³.

10. A foam according to claim 9 having a density in the range of 5 to 70 kg/m³.

11. Article comprising a foam in accordance with claim 1.

12. A process for making a foam, which process comprises converting a propylene copolymer material comprising at least 50 weight percent of units derived from propylene, based on the total propylene copolymer material, and units derived from ethylenically unsaturated comonomers and having a melt flow rate in the range of from 0.5 to 8 g/10 min, a melt strength of at least 5 cN, and a melt drawability of at least 20 mm/s, optionally mixed with a nucleating agent, into a polymer melt, introducing, at an elevated pressure, at least one blowing agent into the polymer melt to form a foamable gel, cooling the foamable gel, and extruding the foamable gel into a region of lower pressure to form a foam.

13. A process for making a foam in the form of thermoplastic foam beads, which process comprises converting a propylene copolymer material comprising at least 50 weight percent of units derived from propylene, based on the total propylene copolymer material, and units derived from ethylenically unsaturated comonomers and having a melt flow rate in the range of from 0.5 to 8 g/10 min, a melt strength of at least 5 cN, and a melt drawability of at least 20 mm/s, optionally mixed with a nucleating agent, into a polymer melt, cooling and granulating the polymer melt to form discrete resin particles, creating a suspension by dispersing the resin particles in a liquid medium in which they are substantially insoluble, introducing, at an elevated temperature and pressure, at least one blowing agent into the suspension to form resin particles having a blowing agent incorporated therein, and rapidly discharging the product into an

atmosphere that promotes converting the product into foam beads.

14. Expandable composition comprising a propylene copolymer material comprising at least 50 weight percent of units derived from propylene, based on the total propylene copolymer material, and units derived from ethylenically unsaturated comonomers and having a melt flow rate in the range of from 0.5 to 8 g/10 min, a melt strength of at least 5 cN, and a melt drawability of at least 20 mm/s, optionally mixed with a nucleating agent, and a blowing agent.